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In Reply Refer To:

AESO/SE
2-21-99-F-084

February 10, 1999

Mr. John McGee
Forest Supervisor
Coronado National Forest
300 West Congress, 6th Floor
Tucson, Arizona 85701

Dear Mr. McGee:

This letter responds to your November 24, 1998, request for formal consultation and enclosed biological assessment for the proposed Carr Canyon Fuels Reduction project located in Cochise County, southeastern Arizona. The project proposes to reduce the fuel load in Carr Canyon by thinning and burning to reduce future fire intensities and spread. The Forest Service finding of effects determination is "may affect, is likely to adversely affect" for the Mexican spotted owl, *Strix occidentalis lucida* (MSO).

The Forest Service effects determinations are "may affect, but not likely to adversely affect" for the American peregrine falcon, *Falco peregrinus anatum*, and lesser long-nosed bat, *Leptonycteris curasoae yerbabuenae*. Based on our review of the proposed project, its effects on listed species in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.), the biological assessment, site visits, additional information, and conversations between Tom Deecken, Dave Swearington, and Cathy Kahlow (Forest Service) and Thetis Gamberg (U.S. Fish and Wildlife Service), the Service concurs with the Forest Service effects determinations for American peregrine falcon and lesser long-nosed bat. Rationale for these concurrences are detailed herein.

As we discuss herein, the Service believes no adverse effects would occur to the MSO as a result of the proposed action, which is in compliance with the 1995 MSO Recovery Plan. We believe formal consultation for MSO is unnecessary for this proposed project.

The Forest Service has requested concurrence from the Service that the proposed action "will not affect" the bald eagle, *Haliaeetus leucocephalus*; black-footed ferret *Mustela nigripes*; cactus ferruginous pygmy-owl, *Glaucidium brasilianum cactorum*; Canelo ladies' tresses *Spiranthes delitescens*; Gila topminnow *Poeciliopsis occidentalis occidentalis*; Huachuca water umbel, *Lilaeopsis schaffneriana* spp. *recurva*; jaguar, *Panthera onca*; jaguarundi, *Herpailurus (=Felis)*

yagouaroundi tolteca; Mexican gray wolf, *Canis lupus baileyi*; northern aplomado falcon, *Falco femoralis septentrionalis*; ocelot, *Leopardus(=Felis) pardalis*; Sonora tiger salamander, *Ambystoma tigrinum stebbinsi*; southwestern willow flycatcher, *Empidonax traillii extimus*; critical habitat designated for the southwestern willow flycatcher and proposed for the Huachuca water umbel, and proposed threatened Chiricahua dock, *Rumex orthoneurus*. Per Service policy, we do not comment on agency "no effect" determinations unless we believe the action would adversely affect a listed species or its critical habitat, in which case the Service would request that the agency enter into formal consultation on species adversely affected [50 CFR 402.14(a)]. Information available to us does not warrant such a request in this instance. However, we recommend that the Forest Service maintain a complete administrative record documenting the decision process and supporting information for "no effect" determinations.

Consultation history for this project began informally with telephone conversations between Thetis Gamberg, and Tom Deecken, Cathy Kahlow, and Bill Wilcox, followed by a site visit and detailed discussions over methods and maps. As the project progressed and more information became available, the Forest Service requested formal consultation with the Service in the November 24, 1998, biological assessment and evaluation. A complete administrative record is on file in our office.

Description of the Proposed Action

The Forest Service proposes a fuels reduction project using thinning and prescribed burning of 217 acres specifically located in Carr Canyon to reduce the likelihood of catastrophic fire and protect and maintain wildlife habitat, recreational values and existing historic structures. Approximately 88 acres of the proposed action is within a Mexican spotted owl (MSO) Protected Activity Center (PAC) designated in Carr Canyon (No. 0503004) (600 acres).

Located on the east side of the Huachuca Mountains in southeastern Arizona, Carr Canyon is highly regarded by the public for its wealth of wildlife and recreational values. A northeast-trending canyon, it drains the slopes of 9,100 foot Carr Peak. Elevations within the proposed fuels treatment area are between 5,200 feet and 6,000 feet in elevation. The canyon supports steep slopes bordered by coniferous vegetation along its mid-elevations, with cliffs giving way to more gently sloping land with oak woodlands occurring at the lower elevations. A narrow strip of mixed broadleaf deciduous riparian land with intermittent stream flow occurs in the middle of the proposed fuels treatment area.

Historic buildings in the project area are the Snapp residence and the Carr Administrative Site. These structures are located in a small area of open canopy in the lower part of the project site in Carr Canyon. The dirt road into Carr Canyon travels past this administrative site over the mountain and down the other side to the west. Recreational activities for visitors in lower Carr Canyon are day hiking, picnicking, and hunting. Farther up the canyon, occasional hang gliders launch from one or two select cliff tops and infrequent rock climbers climb up and belay down from a few favored cliff faces. All these sites are used infrequently and are close to the roadside.

Other Forest Service activities are annual road maintenance and potential fuelbreak construction in the Huachuca Mountains. Future trends in the area indicate development of private lands farther outside the project area (in the foothills beyond Forest Service lands) as populations in the Hereford-Sierra Vista area continue to increase. Public demands will impact Carr Canyon with increased recreational use in all areas around the growing towns as more people move into valleys surrounding the Huachuca Mountains.

Forest stand conditions in the proposed project area consist of dense duff (dead and down fine fuels on the forest floor) and ladder fuels (leaning, piled, stacked or layered accumulation of dead and down woody debris, configured such that if ignited, would allow fire access into the upper forest canopy). These stand conditions promote catastrophic fires if ignited because they burn with much greater flame lengths and intensities and quickly become a stand-replacing fire event. In addition to the heavy fuel load in the forest, fire hazard in the Huachuca's remains high due to regular, year-round exposure to natural and human-caused fire ignitions. Fires begun by lightning strikes (especially during monsoon season) combined with high public use (approximately 35,000 visitors per year) elevate the probability of a catastrophic stand-replacing fire occurring and threatening listed species and their habitats.

Two levels of thinning are proposed (see Table 1, Proposed Thinning, below). Tree sizes are expressed in diameter at breast height (dbh).

Table 1. Proposed Thinning

SITE	TREATMENT	AREA
Outside the MSO PAC	Thin up to 80 percent of trees with <5"dbh and up to 50 percent of trees between >5"dbh and <9"dbh that contribute to canopy. Current canopy cover is 70 percent; reduce to no less than 60 percent; retain higher wherever possible.	129 acres
Within 100 feet of the existing administrative site and private residence currently inside the MSO PAC boundary.	Same as above.	3 acres
Inside the remainder of the MSO PAC	Thin up to 50 percent of trees <5"dbh that contribute to canopy. Current canopy cover is 93 percent; reduce to no less than 80 percent; retain higher wherever possible.	85 acres

There will be two entries into the MSO PAC during the life of the project. Thinning will be the first part of the first treatment (thinning and burning) and will follow the prescription noted above in Table 1. Live trees with cavities will be left wherever possible. Active known raptor nest sites (i.e. Cooper's hawk nest tree active in 1998) will have a 100 foot buffer around the nest tree. Snags with >9"dbh will be retained at approximately 98 percent. Snags with <9"dbh which are not contributing to fuel ladders will also be retained. Down logs >12" midpoint diameter and longer than eight feet will be retained at approximately 98 percent.

To complete the first treatment, a ground-based burn will be used to reduce ground fuels and thinning debris on the ground. MSO component protection will consist of handline (a fireline scraped with hand tools to mineral soils, ranging from 18" to 24"wide), pre-wetting treatments (especially on all clusters of paniculate agave), crews and equipment on site (engines with water, hose lays) and additional resources available (suppression personnel, District wildlife biologist, Resource Advisor).

With this burn prescription (Figure 1.), flame lengths will average two feet long and produce relatively cooler fire intensities than other types of fire prescriptions. This burn prescription is successful at effectively reducing duff and ground fuel loads without allowing fire to enter and impact the canopy (see section below on burning prescription). Two years after the first treatment (thinning and burning), dead trees with <9"dbh will be removed (second thinning) and a second cool, low-intensity ground-based burn will hinder residual vegetation encroachment and reduce remaining ground fuels. Loss of the larger classes of oak (and other hardwood) with >9" dbh is not expected to exceed two percent because the fire prescription is for a "cool" ground fire that is not anticipated to burn hot enough to penetrate the thicker bark found at tree bases. Fire intensities at ground level will also be "cool" as the ground fuels will be either scraped or the trees handlined for protection, preventing fire from burning at the tree bases for a long period of time. There is always some mortality of trees in any fire project due to unknown weaknesses or diseases in trees that kill the trees after any type of fire passes through an area. This prescription and its careful implementation is expected to hold tree loss to two percent for trees >9" dbh and above in the MSO PAC.

Forest Service-approved 1998 microhabitat monitoring protocols for MSO will be followed in the project area. In order to describe pre- and post treatment stand conditions, 25 plots were located in 126 acres within the 217 project area considered protected and restricted owl habitat. A 10-factor prism was used to determine basal area by diameter class. Using the same plot centers, 25 fixed plots of 0.2 acre each were also read for canopy cover, snags, downed logs, and agaves. The following compares the key habitat components for the Mexican spotted owl before treatment to those anticipated afterwards. Summary sheets for data collected are included in the BA.

The following information was taken from the Carr Canyon Fuels Reduction BA:

Habitat Factor	Protected Area Center Pre-treatment	Protected Area Center Post-Treatment	Other Owl Habitat Pre-treatment	Other Owl Habitat Post-Treatment
Key Habitat Component				
Trees > = 24 in. diameter/acre	0.00	0.00	2.01	1.97
Trees > = 18 in. and < 24 in. diameter/acre	0.60	0.50	5.07	4.97
Trees > = 5 in. diameter/acre	305.55	299.43	220.56	131.68
Basal Area Trees > = 5 in.	111.43	109.20	132.73	84.70
Snags > = 12 in. diameter and 8 ft. tall/acre	0.36	0.35	1.79	1.75
Downed logs > =12 in. diameter and 8 ft. long	1.43	1.40	0.71	0.70
Variables				
Trees > = 12 and < 18 in. diameter/acre	6.45	6.32	5.07	4.97
Trees > = 5 and < 12 in. diameter/acre	298.50	292.53	194.71	106.95
Trees > = 1 and < 5 in. diameter/acre	481.56	238.93	135.44	27.09
Thresholds				
% stand density of trees > =12 & < 18 in. diameter.	4.31	4.89	16.34	23.11
% stand density of trees > =18 & <24 in. diameter.	0.69	0.78	7.84	11.09
% stand density of trees > =24 in. diameter	0.00	0.00	4.60	6.51
Total tree basal area	134.29	120.54	146.36	85.99
Trees > = 24 in. diameter/acre	0.00	0.00	2.01	1.97

Habitat factors shown above follow those given in the MSO microhabitat monitoring protocol for habitat alteration (U.S. Forest Service 1998a) and in the 1995 MSO Recovery Plan. The portion of the treatment area within the MSO PAC supports Madrean evergreen oaks representing almost 84 percent of the species composition. Alligator juniper represents another 12 percent. Other species, including conifers and riparian, represent less than 5 percent. Thinning levels proposed will retain a predicted 98 percent of the larger diameter age classes (>12"dbh) of all tree species. Protection of individual large diameter snags and down logs will ensure retention of these features at the predicted level. Monitoring during a three year period after treatment, as well as the protocol-required post+10 year period, will compare predicted conditions to actual conditions as required by the monitoring protocol.

All treatments (thinning and burning) will take place between September 1 and the end of February for the life of this project (estimated at a total of five years). Treatments are expected to occur only in the first and fourth year of the project, and a fifth year was added as a time buffer in case funding constraints delay the project. During all treatment periods, a wildlife biologist or appropriate designate will analyze project effects and prepare and submit monitoring reports to the Forest Service and Service by October 31, annually. In an emergency fire situation, the Forest Service will immediately call and inform the Service, following this call with written documentation within 20 days of the incident.

Day and night-time air temperature, relative humidity and fuel moisture must fall within minimum and maximum levels as defined in Figure 1.

Figure 1: Burning Prescription

Air Temperature:	Daytime:	Maximum: 80 degrees	Minimum: 50 degrees
	Nighttime:	Maximum: 60 degrees	Minimum: 40 degrees
Relative Humidity:		Maximum: 45 percent	Minimum: 25 percent
Fuel Moisture:	1 hour fuels	Maximum: 10 percent	Minimum: 6 percent
	10 hour fuels	Maximum: 13 percent	Minimum: 7 percent
	100 hour fuels	Maximum: 15 percent	Minimum: 8 percent
	1000 hour fuels	Maximum: 50+ percent	Minimum: 20+percent

Acceptable ranges for:

Live fuel moisture: equal to or greater than 70 percent.
Midflame wind speed: 0 - 15 mph Direction: N, NE, E, SE
Soil Moisture: N/A
Time of year: late summer/fall/winter
Days since last precipitation: 5+ of greater than 0.25 inches.

Light or moderate smoke from the burning is anticipated and the Carr Prescription Smoke Plume Map (additional information) shows smoke is expected to lift out of the canyon due to daytime up-canyon breezes. Fire behavior information for the burning prescription shows the fire type will be a backing strip and spot firing method, with some head fire and flank firing. Head fire rate of spread will be approximately one chain (66 feet) per 10 hours, not to exceed one chain per 14 hours. The backing fire rate of spread will be one chain per one hour, not to exceed one chain per 3 hours. Flame lengths will average two feet with an allowable scorch height of 10 feet.

In the event of a fire treatment burning out of prescription, immediate suppression will be implemented by on-site ground crews using least-damaging methods that do not put life or property at risk (as encouraged and explained in the 1995 MSO Recovery Plan). A burn occurring out of prescription is a wildfire and the Forest Service will, in accordance with emergency consultation procedures (50 CFR 402.05), notify the Service as soon as possible on suppression activities that may affect listed species or critical habitat.

Mitigation measures

The Service notes the Forest Service will conduct the following mitigation measures for this project:

1. Prior to work beginning, thinning and burning crews will be informed of the specific thinning and burning criteria required for the project to remain in compliance with this concurrence and the MSO Recovery Plan.

2. Treatments (thinning and burning) will not occur within the 109 acre area around MSO nest/roost sites. This 109 acre area includes habitat that resembles the structural and floristic characteristics of the nest site. The 109 acre area will be protected by using topographic and other barriers or through fireline construction. All fireline construction in MSO PACs will occur outside MSO breeding season (March 1-August 31, annually), will not remove trees >9" dbh unless they pose a threat to firefighter safety, and will only occur with coordination of the RAs or Sierra Vista Ranger District wildlife biologist.

3. All treatments will occur outside MSO breeding season. Treatments (thinning and burning) will produce a mosaic of MSO habitat components within PACs.

4. During burning treatments, the Forest Service ensures to the greatest extent possible no more than 10 percent of the canopy of the Carr Canyon PAC will be affected by gaps created by single(s) or groups of trees "crowning". Groups of trees that "crown out" will not exceed two acres in size.

5. During burning treatments in Carr Canyon, Resource Advisor(s)(RA) will be on site. RAs will be qualified biologists with knowledge of MSO and its habitat and will possess maps of MSO PACs and potential nest/roost habitat in the project area and vicinity. RAs

will coordinate MSO concerns and serve as an advisor to the fire boss and as the field contact representative(s) responsible for coordination with the Service. RAs will monitor fire suppression activities to ensure protective measures endorsed by the fire boss are implemented. RAs will be on call 24 hours a day during treatments.

6. If any MSO, nest, or young are encountered during any circumstances in connection with the proposed project, the RAs will be immediately notified. RAs will assess potential harm to the owl and advise the crew boss and/or fire boss of methods to prevent harm. RAs will maintain a record of any MSO encountered during project activities. Information will include for each owl the location, date, time of observation and the general condition of the owl and any of its responses to treatments (thinning and burning and associated activities).

7. During fire suppression, one of the objectives will be protection of MSO PACs. This objective will not in any way constrain the fire boss from taking any action deemed necessary to protect life or property.

8. During fire suppression, areas of significant human activity, prescribed fire, or managed natural fire such as fire spike and crew camps, landing strips, pads, and equipment staging areas, will be located outside MSO PACs. Areas disturbed during fire suppression activities such as fire lines, fire spike and crew camps, and staging areas will be rehabilitated and will include obliteration of fire lines to prevent their unauthorized use by vehicles, trail riders, or hikers. The Forest Service, to the fullest extent possible, will obliterate vehicle tracks made during fire activities, especially those of tracked vehicles.

9. Each season, the Forest Service will continue to monitor the Carr Canyon MSO PAC and determine presence and reproductive status.

10. Each season, the Forest Service will continue to monitor Carr Canyon for peregrine falcon presence and reproductive status.

11. Each season, the Forest Service will monitor Carr Canyon for lesser long-nosed bats. Any bat detections will be documented, mapped and reported to the Service as soon as possible. Given current Forest Service budget constraints, other means of funding will be explored to assist surveys as per number 9, 10, and 11.

12. The Forest Service will maintain a dated log of hang gliding and rock climbing activities year-round, noting any disturbances to listed species, habitat or components.

13. Each season, the Forest Service will monitor agave population density, survival, and flowering in the project area. Monitoring objectives will be to establish trends in bat forage resources.

The Service recommends the Forest Service pursue the completion of a forest-wide consultation on wildfire suppression activities.

Mexican spotted owl information and analysis

During past breeding seasons, Mexican spotted owls have not been seen within the project area below the Carr Administrative site (Josh Taiz, U.S. Forest Service, pers. obs.). Appendix A. is a 7.5 minute topographic quadrangle map showing distances from project location to 1998 known MSO roost and historic nest sites within the Carr Canyon MSO PAC. A 109 acre activity center is defined at approximately 0.25 mile from the project area; all MSO observations have been within this part of Carr Canyon. In 1998, observations of a single male MSO were within 100 yards of past year's nesting area. Table 2. Carr Canyon MSO PAC Survey Records lists known history in this MSO PAC.

Table 2. Carr Canyon MSO PAC Survey Records

YEAR	RESULTS
1990	Occupied; nesting undetermined.
1991	Occupied: 2 young.
1992	Occupied; non-nesting determined.
1993	Occupied; 2 young.
1994	Occupied; non-nesting determined.
1995	Occupied; male located in historic nest area.
1996	Occupied; no young found.
1997	Occupied; non-nesting determined.
1998	Occupied; male located in historic nest area. Formal PAC lines delineated this year.

A separate recreational development project (with fuelbreak construction) is ongoing in Carr Canyon. The recreational development project is designed to concentrate public use in specific, reduced-fire hazard areas. Two fuelbreaks in this area will help firefighters contain wildfires to lower Carr Canyon. This will help crews keep fire from progressing into upper Carr Canyon, which would threaten MSO and peregrine falcon, their habitats, and other wildlife, plant, and resources in the event of a stand-replacing fire event. These activities have been analyzed for effects to threatened and endangered species previously (U.S. Fish and Wildlife Service 1998a; U.S. Forest Service 1998b,c).

The Carr Canyon Fuels Reduction project is located within the Basin and Range - West RU as defined by the 1995 MSO Recovery Plan. This RU is a relatively broad band bounded on the north and northeastern edges by the Upper Gila Mountains RU, on the eastern edge by the Basin and Range - East RU, along the southern edge by the United States - Mexico border, and on the western edge by the Colorado river. Vegetation in this RU ranges from desert scrubland and semi-desert grassland in the valleys upwards to montane forests. Owls inhabit a variety of habitat types in this RU. The majority of owls occur in isolated mountain ranges where they inhabit encinal oak woodlands, mixed-conifer and pine-oak forests, and rocky canyons.

The 1995 Recovery Plan outlines criteria for this type of treatment (pages 86 to 88). This PAC is the first treated by the Coronado National Forest with thinning and burning as per the 1995 MSO Recovery Plan, and is within the 10 percent recommendation for treatments within the RU. This PAC will have 88 acres treated under this recommendation. The 109 acre core area in the Carr Canyon PAC will be fully protected from fire. The Service is committed to large-scale, ecosystem based management and supports the Forest Service efforts to protect ecosystems under their administration from catastrophic fire.

Indirect effects of fire include both negative and beneficial effects on Mexican spotted owl habitat. Beneficial aspects would include increased response of herbaceous vegetation after the treatments and aid in reduction of future occurrences of catastrophic, stand-replacing fires. Negative effects would include some loss of MSO prey habitat components such as herbaceous cover, small diameter down logs and snags. These negative effects would be short-term and localized and result in temporary dispersal of MSO prey species in the project area and PAC, which is small in scale (15 percent) when compared to the total area the MSO could forage in successfully. Fire impacts and effects on MSO prey base are complex and dependent on variations in fire characteristics and prey habitat. Fire intensity, size, and behavior are influenced by numerous factors such as vegetation type, moisture, fuel loads, weather, season, and topography. Fire can effectively alter vegetation structure and composition, and thereby affect small mammal habitat. The burning prescription for the proposed project is a relatively "cool" ground fire, consuming ground fuels, and is not anticipated to burn out of prescription or cause a stochastic event (see the discussion on the burning prescription, below).

Population responses by small mammals varies with fire-induced changes in their habitat. Deer mouse populations may increase immediately following fire and then decrease through time (Ward and Block 1995). Campbell *et al.* (1977) noted populations of peromycid mice decreased immediately following fire in an Arizona ponderosa pine forest that removed one-fourth (moderately burned) to two-thirds (severely burned) of the basal area; populations returned to pre-fire numbers two years following the burn. No differences were found in rodent populations between moderately and severely burned areas. They concluded the effects of the fire they studied were short-term, and the short-term positive numerical responses of mice were attributed to an increase in forage, particularly grasses and forbs after the fire (Ward and Block 1995). Irvine (1991) documented post-fire declines in deer mice populations at study sites on the Coconino National Forest. Irvine attributed these declines to reduced food supplies. Lowe *et at.* (1978)

Scattered small clusters and individual Palmer's agaves are distributed lightly in the project area; Parry's agaves have not been found to date in the project area. The foothills and surrounding lands of the Huachuca Mountains contain available agave and potential habitat for lesser long-nosed bat. Even so, protection will be afforded clusters of agaves by handline and pre-wetting treatments before fire is ignited. The cooler fire prescription will reduce mortalities, especially in older, more mature plants, and plot monitoring inventories will be conducted before and after treatments. Any unexpected effects from the project or new information regarding either bats or forage plants will be reported to the Service as soon as known.

The proposed treatments will likely result in a short-term localized reduction of scattered individual agaves, including immature clones or very small plants less likely to withstand even light fire effects. The area of disturbance is small relative to the total agave population and density available to bats. Clusters of agave will be protected from fire by handline and pre-wetting prior to fire ignition, and the reduction in ground plant competition may increase agave rejuvenation over the long-term. Bats are known to travel long distances for foraging and the scattered agaves located in the project area are unlikely a long-term, major source of food for the bat. Long-term effects are likely to include increased agave density due to a reduction in ground plant competition.

The implementation of the action is not expected to increase hang gliding or rock climbing, or general visitor use in the canyon. Should increased visitor activities show disturbance to lesser long-nosed bats or agave, restrictions on those disturbances may need to be established and enforced in the future.

After reviewing the current status of the lesser long-nosed bat and the effects of the proposed action, the Service concurs with the Coronado National Forest's finding that the proposed action is not likely to adversely affect the lesser long-nosed bat.

This concludes our concurrence for the Carr Canyon Fuels Reduction project. The Service appreciates your efforts on behalf of listed species and the public lands they occupy. If we can be of any further assistance, please contact Thetis Gamberg (x230) or Jim Rorabaugh (x238) of my staff.

Sincerely,

David L. Harlow
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (PARD-ES-Attn: Steve Chambers)
Field Supervisor, Fish and Wildlife Service, Albuquerque, NM
Director, Arizona Game and Fish Department, Phoenix, AZ

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noted an increase in deer mice populations the first year after a fire in ponderosa pine near Flagstaff, Arizona. Small mammal diversity and densities are typically depressed for one to three years after a fire (Wright and Bailey 1982). Biswell *et al.* (1973) suggested that rodent populations would be less affected during fall fires, because at that time of year rodents have accumulated seed caches that will mitigate loss of food sources. Predation of surviving rodents by MSO may increase immediately after the fire. In one study in northern California, radio-collared northern spotted owls spent considerable time in burned-over areas. This activity was assumed to be due to easy capture of prey (Patton and Gordon 1995).

Initial effects of treatments (thinning and burning) are likely to result in short-term, localized reduced rodent populations as cover and plant forage species would be lost, primarily in the first season following each treatment (thinning and burning). Large diameter logs and snags will still be available for hiding and thermal cover for prey species. Another long-term effect of the proposed treatments (thinning and burning) is assistance in "fireproofing" the MSO PAC located in Carr Canyon from catastrophic, stand-replacing wildfires by reducing ground and "ladder' fuels that contribute to that outcome.

Implementation of the action is not expected to increase hang gliding or rock climbing, or general visitor use in the canyon. Should increased visitor activities show disturbance to MSO or habitat, restrictions on those disturbances may need to be established and enforced in the future.

The Forest Service did not address grazing activities (post-fire) in their biological assessment and evaluation for this project in Carr Canyon. Carr Canyon was withdrawn from grazing due to conflicts with recreational uses in 1985 and future grazing is not anticipated (Tom Deecken, pers. comm.). Should future grazing become an issue, the Forest Service will inform the Service as soon as possible after such a decision is made.

After reviewing the current status of the Mexican spotted owl and the effects of the proposed action, the Service's finding of effects determination is "may affect, but is not likely to adversely affect" for MSO.

American peregrine falcon status and analysis

Prior to 1989 a historical territory for peregrine falcon was established in upper Carr Canyon but a nest location was not found during Arizona Game and Fish Department surveys in 1989. Surveys were not conducted after that time. One eyrie was observed by District personnel in 1998 and is 0.50 mile from the proposed project site. Appendix B. shows the 1998 eyrie and projected distances from the project area. Behavior of the pair indicated either incubation or brooding of young (May 23, June 2, 11) and observations made later in June and July indicated young were probably not fledged from the eyrie (Tom Deecken and Dave Swearington, Coronado National Forest, pers. obs.).

Current Service policy is that activities that would disturb nesting peregrine falcons such as loud noise(s), surface disturbances, and prescribed fire, should not take place during the breeding and nesting season (March 1-July 31, annually), within 0.50 mile of suitable nesting habitat unless surveys had determined peregrines were absent. The Peregrine Recovery Plan (USFWS 1984) also noted the need to analyze habitat modifications within 1.0 mile of nesting sites for potential impacts to peregrine falcon.

The 1998 eyrie is 0.50 mile from the proposed project site. Noise and other mechanical activities (chainsaws, motor vehicle, and chippers) associated with the proposed project are not expected to disturb nesting peregrine falcon as these activities will occur outside the species breeding season (March 1 to July 31, annually). The proposed treatments will likely result in a short-term localized reduction of small passerine birds due to disturbance, noise, and loss of understory shrubs. The area of disturbance is small relative to the total habitat available to the prey species and they may simply move out into the surrounding areas still in the general peregrine hunting zone. Long-term effects are likely to include the return of these prey species into the project area after each treatment disturbance, and the final entry, is completed. Biologists will continue to observe Carr Canyon and monitor for peregrine falcon. Detection of peregrine falcon, young, roost and nest sites will be documented and reported to the Service as soon as known.

The implementation of the action is not expected to increase hang gliding or rock climbing, or general visitor use in the canyon. Should increased visitor activities show disturbance to peregrine falcon, restrictions on those disturbances may need to be established and enforced in the future.

After reviewing the current status of the peregrine falcon, the environmental baseline, and the effects of the proposed action, the Service concurs with the Coronado National Forest's finding that the proposed action is not likely to adversely affect the American peregrine falcon

Lesser long-nosed bat status and analysis

Informal surveys for lesser long-nosed bat were conducted in Carr Canyon during either 1994 or 1995 but no roosts or bats were located. Recent anecdotal information indicates lesser long-nosed bats feeding regularly at hummingbird feeders in Ramsey Canyon (located one ridge north of Carr Canyon) during September and October, before bats begin migrating to Mexico (Tom Deecken, pers. comm). University of Arizona student(s) have been surveying potential habitat for lesser long-nosed bat in southern Arizona and the Forest Service expects an annual report detailing the results this year (Tom Deecken, pers. comm). Appendix C. is a table taken from the Forest Service BA&E detailing snags, down logs, and agaves, showing agave density in each age class, and total agave numbers. The agaves were tallied in the same plots and at the same time as data for MSO microhabitat monitoring plots were taken.

The nearest known lesser long-nosed bat roost is the State of Texas mine located approximately five air miles south of the project area in the Coronado National Memorial (National Park Service) and is not expected to be impacted by this proposed project.

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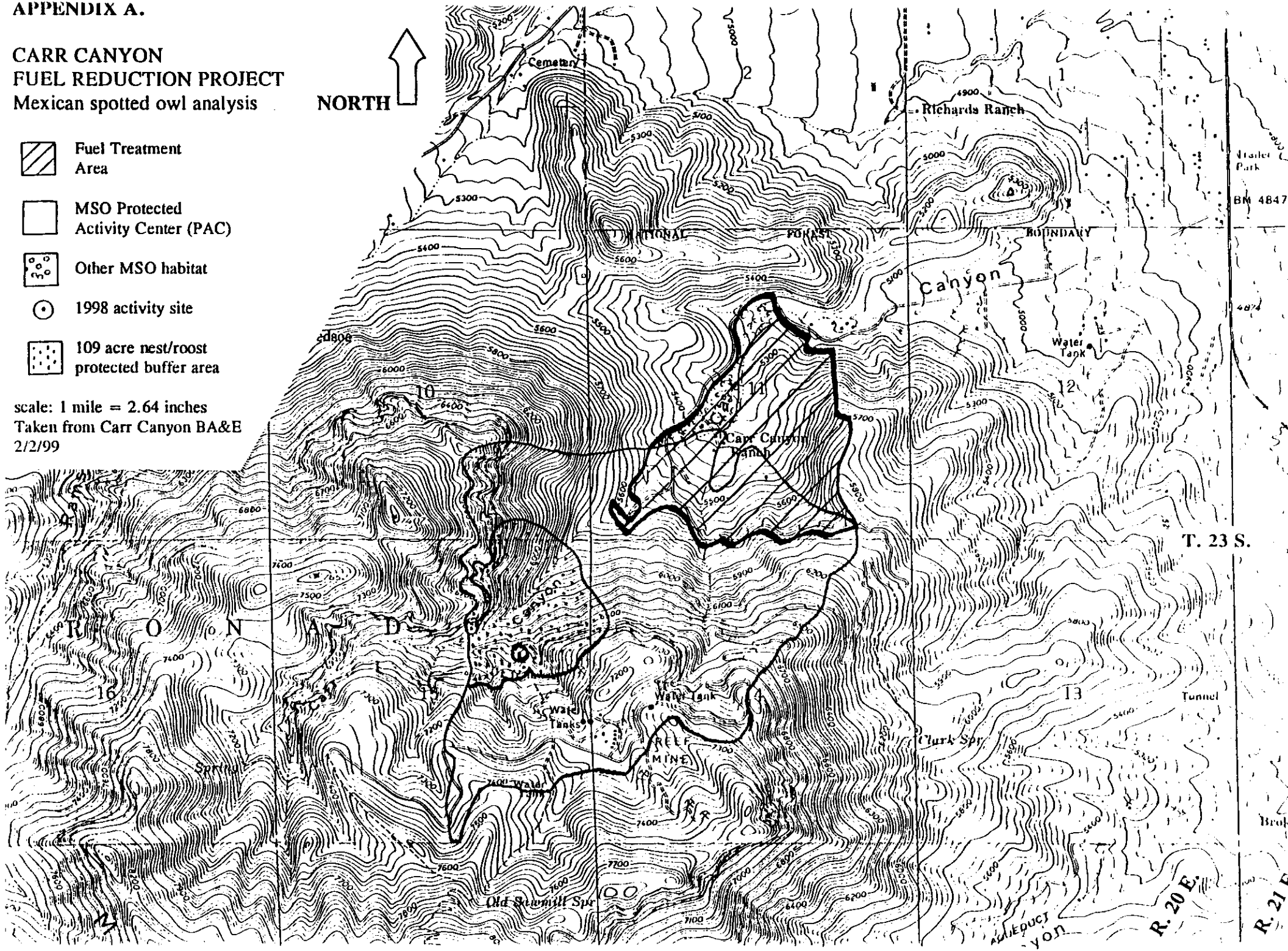
APPENDIX A.

CARR CANYON
FUEL REDUCTION PROJECT
Mexican spotted owl analysis



APPENDIX B.

CARR CANYON
FUEL REDUCTION PROJECT
American peregrine falcon analysis

NORTH

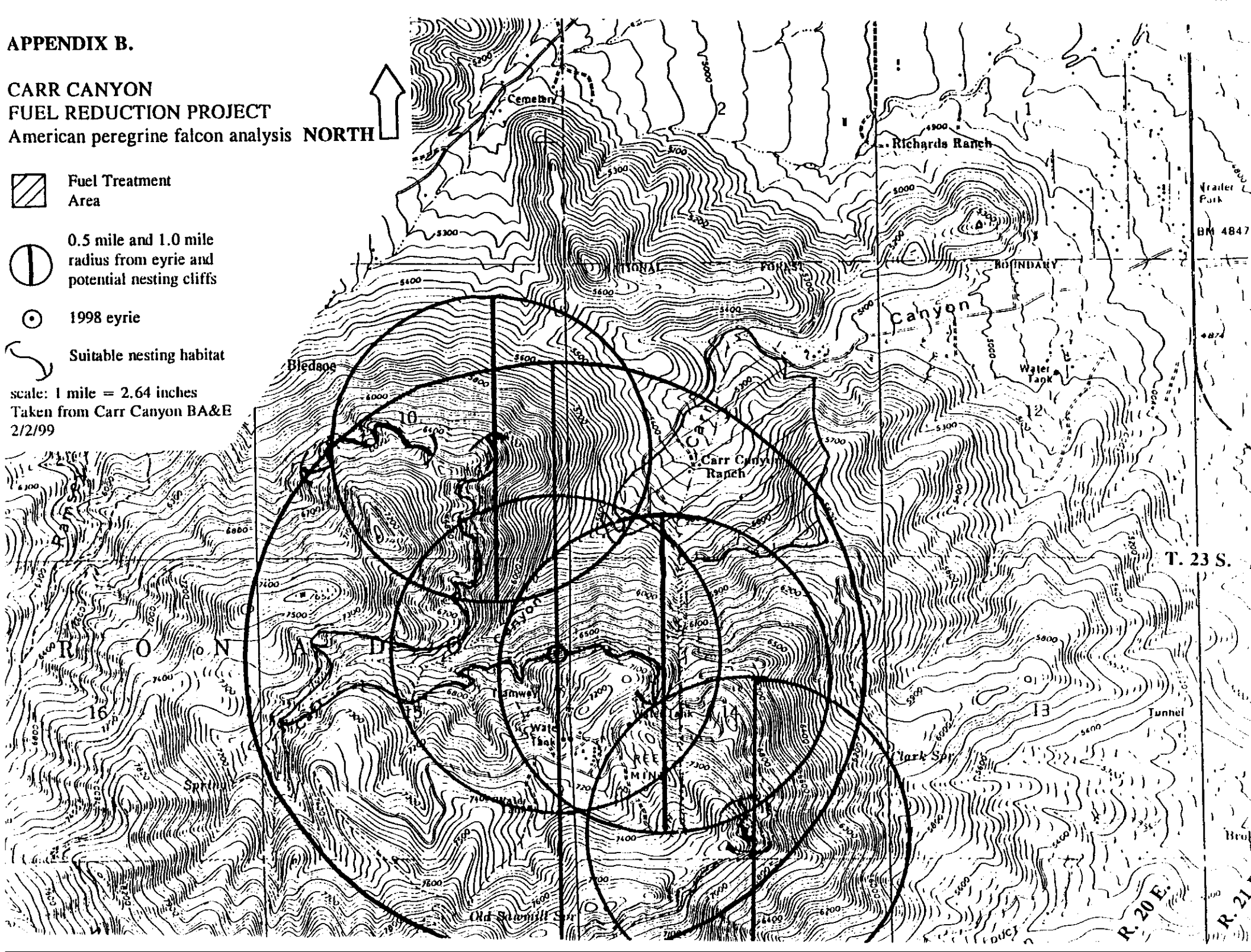
Fuel Treatment Area

0.5 mile and 1.0 mile radius from eyrie and potential nesting cliffs

1998 eyrie

Suitable nesting habitat

scale: 1 mile = 2.64 inches
Taken from Carr Canyon BA&E
2/2/99



CARR FUEL REDUCTION- Snags, Downed Logs, and Agaves

APPENDIX C.

AGAVE DENSITY IN EACH AGE CLASS

B E	6-13 1-6	Diameter Class	Total	Agaves per acre
		seedling	10	3.57
		young	11	3.93
		mature	0	0.00
		mature w/stalk	0	0.00
		TOTAL	21	7.50
A B	1-6 1-5	Diameter Class	Total	
		seedling	34	15.45
		young	58	26.36
		mature	5	2.27
		mature w/stalk	0	0.00
		TOTAL	97	44.09

United States Department of the Interior
U.S. Fish and Wildlife Service
2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
(602)640-2720 FAX (602)640-2730

In Reply Refer To:

AESO/ES
2-21-99-I-084

February 17, 1999

John McGee
Forest Supervisor
Coronado National Forest
300 West Congress 6th Floor
Tucson, Arizona 85721

Dear Mr. McGee:

This letter responds to a Forest Service telephone request for further clarification concerning the timing of treatment actions in the Carr Canyon Fuels Reduction project sent from the Service to the Forest Service February 10, 1999.

The final consultation number for the Carr Canyon Fuels Reduction project is 2-21-99-**I**-084, not -**F**-084, as previously written. On page seven of the above-named concurrence letter, the Forest Service may conduct treatments **outside** the Carr Canyon MSO PAC as described in the project proposal during the MSO breeding period.

This amendment makes no other changes to this project or Service concurrence document. Thank you for the opportunity to provide this clarification. Please contact Thetis Gamberg or Jim Rorabaugh of my staff with any questions or concerns.

Sincerely,

David L. Harlow
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (PARD-ES-Attn: Steve Chambers)
Field Supervisor, Fish and Wildlife Service, Albuquerque, NM
Director, Arizona Game and Fish Department, Phoenix, AZ

Carr Canyon clarification letter:TATG

United States Department of the Interior
U.S. Fish and Wildlife Service
2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
(602)640-2720 FAX (602)640-2730

In Reply Refer To:

AESO/ES
2-21-99-I-084

July 21, 1999

Mr. Randall A. Smith
Acting District Ranger
Sierra Vista Ranger District
Coronado National Forest
5990 South Highway 92
Hereford, Arizona 85615

Dear Mr. Smith:

This letter responds to additional and new information provided to the Service by District Wildlife Biologist Tom Deecken regarding the 1999 season reproductive status of the Mexican spotted owl(s) (*Strix occidentalis lucida*) and the American peregrine falcon(s) (*Falco peregrinus anatum*) inhabiting Carr Canyon, located on the eastern side of the Huachuca Mountains of southeastern Arizona. The Forest Service requests to continue their thinning operations into the lower end of the Carr Canyon Mexican spotted owl (MSO) Protected Activity Center (PAC) near the Carr Canyon Administrative Site during the end of the 1999 MSO breeding season (March 1 to August 31, annually).

The Mexican spotted owl (MSO) Protected Activity Center (PAC) # 0503004 is located in lower Carr Canyon and the MSO pair fledged at least one young bird which was banded by Russell Duncan June 23, 1999. A nest was not located, but the nest site area has been narrowed to the cliff face immediately southeast of where most past MSO sightings have been made during the 1999 MSO breeding season (see the first map attached to the Forest Service letter, dated July 15, 1999).

Peregrine falcon observations located two fledged young flying over the ridgeline that held the 1998 eyrie site, which is the most likely location (due to observations and whitewash) for the 1999 nest. The two young and the adult female falcon were sighted again July 5, 1999, approximately 0.5 mile to the east of the eyrie area.

As per previous Service consultations for the East Huachuca Mountains Recreation Plan (2-21-98-I-285) and the Carr and Miller Canyons Fuels Reduction project (2-21-99-I-084), the Service notes the Forest Service may proceed with proposed work located outside the MSO PAC boundary at this time. The Service understands the Forest Service may reach the lower boundary of the MSO PAC before the end of the MSO breeding season (August 31, 1999), and wishes to proceed into the lower end of this PAC to begin work at and around the Carr Canyon Administrative Site. This work would include use of chainsaws for thinning, following

prescriptions previously reviewed, trees determined to be a fuels hazard to the Administrative site and the historic Carr House.

The Forest Service confirms the need for formal consultation before construction of the Carr House parking lot and associated facilities located within the MSO PAC boundary.

Tom Deecken and Tom Gatz (Service Endangered Species Coordinator) discussed this project request by telephone on July 15, 1999. Service biologists Thetis Gamberg and Michele James reviewed the request July 19 and 20, 1999. The MSO Recovery Plan notes the MSO breeding season (March 1 to August 31, annually) PAC entry restrictions are intended to allow the adult MSO to continue to feed and care for their post-fledglings through August until the young disperse in September, as noted by the Recovery Plan. The young's fitness prior to dispersal is very important for their future survival and thus, for the recovery of the species.

On July 20, 1999, the Service (Thetis Gamberg) telephoned the Forest Service (Tom Deecken) and further discussion resulted in the Forest Service withdrawing their request to enter into the MSO PAC prior to September 1, 1999.

The Service appreciates your information and efforts on behalf of listed species and the public lands they occupy. If we can be of further assistance, please contact Thetis Gamberg (x 230) or Tom Gatz (x 240) of my staff at 602/640-2720.

Sincerely,

for

David L. Harlow
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (PARD-ES-Attn: Steve Chambers)
Field Supervisor, Fish and Wildlife Service, Albuquerque, NM
Director, Arizona Game and Fish Department, Phoenix, AZ

Carr Canyon MSO.FAPE.1999.wpd:tatg